

**REMARKS**

Reconsideration and allowance of the above identified application are requested.

*Information Disclosure Statement*

The attached IDS includes documents cited in a International Search Report mailed to the Applicant on April 15, 2004 by the International Searching Authority in regards to a PCT application based on the above-mentioned application. A check that includes the fee for submitting the IDS is enclosed.

*Specification.*

The paragraph that starts on page 2, line 29 is amended to clarify the claimed invention within the scope of the original application. The Applicant's invention claims breads made with an emulsified liquid shortening composition comprising dietary fiber gel. The dietary fiber gel of the invention is disclosed by Inglett (U.S. Patent, Number 5,766,622, dated June 16, 1998), which was incorporated by reference into the original as-filed application at page 2, line 36. Information included by reference is "as much a part of the application as filed . . . , and should be treated as part of the text of the application as filed." MPEP § 2163.07(h). Clearly, dietary fiber gel as disclosed by Inglett is part of the as-filed application.

Inglett teaches at Col. 1, lines 9-12, that it is well known that "[d]ietary fibers are generally considered to be the soluble and insoluble components of cell walls . . . [and] consist primarily of cellulose, hemicellulose," and so forth. In the process of the invention, Inglett at Col. 3, lines 24-32, explicitly teaches that "[f]ollowing at least the second stage of treatment . . . the solids are separated for the liquids and the recovered insolubles are carried forward to the next processing step, [wherein] the second stage separation is intended to isolate and recover the gel product of this invention," i.e., dietary fiber gel. The source of the dietary fiber is agricultural by-products such as grain seed brans, hulls, and so forth is noted by Inglett at Col. 3, lines 3-8.

Inglett implicitly teaches that dietary fiber gel is insoluble dietary fiber derived from the alkaline treatment of agricultural by-products. Inglett at Col. 3, line 33 to Col. 4, line 36 teaches the first stage of treatment is "preferably in the range of about . . . pH 9-13. The gel products . . . contained in the insoluble fraction . . . from the first stage . . . are subjected to [a] second stage . .

. [of] treatment . . . at alkali pHs, preferably in the range of 7-12. Following the second stage . . . solids are again separated from the liquids . . . [and] the recovered solids consist of cellular debris in the form of a hydrated gel. The gel may be dried.” One skilled in the art would know that solids separated from liquid after the second stage are implicitly insoluble dietary fiber. Clearly, because Inglett explicitly and implicitly teaches dietary fiber gel as the insoluble component of dietary fiber that can be recovered and formed into a gel, so does the as-filed application.

As to the physical form and characteristics of the dietary fiber gel, Inglett at Col. 5, lines 43-45, explicitly teaches that dietary fiber gel “may exist in either the hydrated form as gels or in the dehydrated form as flakes or powder.” At Col. 4, lines 30-32, the hydrated gel is described as “white or very light in color, [and] has little or no flavor, [and] a smooth texture.”

Inglett inherently teaches an amorphous dietary fiber gel because the gel exhibits a smooth morphology. For example, at Col. 4, line 63 to Col. 5, line 3, Inglett teaches that dietary fiber gel has “a smooth sheet- or film-like morphology” based on scanning electron photographs at magnifications of 500-1000X, and “[t]he smoothness of the original gels are restored after reconstitution of the dried products.” Typically, crystal structures are characterized by sharp edges that result in rough, jagged, and under scanning electron microscopic magnification a generally non-smooth morphology such that one skilled in the art would know that dietary fiber gel that has a smooth morphology would be inherently amorphous.

Thus, dietary fiber gel in the Applicant’s invention comprises non-particulate amorphous insoluble dietary fiber derived from the alkaline treatment of agricultural by-products. Although the specification has been amended so as to more reasonably convey the invention, and more specifically what dietary fiber gel is to one skilled in the art, the amendments to the specification are expressly, implicitly, or inherently supported by the Inglett patent, a part of the original as-filed application.

### *35 U.S.C. § 103 Claim Rejection.*

The Applicant traverses the rejection of Claims 1-8 as obvious under 35 U.S.C. § 103 (a) because Young et al in view of Stone, as cited in the Examiner’s Office Action, teaches bakery food products, arguably including breads and pancakes, that comprise shortening substitutes. The shortening substitutes comprise two components, a gelatinous aqueous phase and a lipid

phase, wherein the gelatinous aqueous phase is a gelatin formed from water and a soluble fiber, konjac. The Applicant's invention on the other hand discloses breads and pancakes that comprise an emulsified shortening comprising insoluble dietary fiber gel, water and lipid.

#### The References Do Not Teach the Claimed Invention

There is nothing disclosed in Young et al in view of Stone that teaches the modification of the references suggested by the Examiner. Obviousness depends on the differences between a claimed invention and the prior art. 35 U.S.C. § 103(a). The establishment of obviousness requires that the prior art must teach or suggest all the limitations of the claimed invention. *In re Royka*, 490 F.2d 981, 984-85 (CCPA 1974). The Applicant traverses the rejection because nothing in Young et al in view of Stone teaches all the elements and limitations of the Applicant's claimed invention.

Young et al teach shortening substitutes that comprises two components, a gelatinous aqueous phase and a lipid phase. The gelatinous aqueous phase is a gelatin formed from water and konjac. Konjac is derived from the tubers of a plant known as elephant yam, and is a polymer of glucose and mannose, more generally known as a polysaccharide. Separately, Stone teaches that konjac is a soluble dietary fiber. Thus, the combination of references, Young et al in view of Stone, teaches shortening substitutes that comprise an aqueous phase and a lipid phase, wherein the aqueous phase comprises water and a soluble dietary fiber that form a gelatin. The applicant's invention on the other hand teaches an emulsified liquid shortening that comprises insoluble dietary fiber, water, and lipid. No combination of the cited prior art references teach the claimed invention, breads and pancakes comprising emulsified liquid shortening comprising insoluble dietary fiber gel, water, and lipid.

For example and as noted by the Examiner, Young et al at Col. 3, lines 7-12, teach "a shortening substitute . . . that has an aqueous phase containing water and konjac . . . and a lipid phase." In light of Stone, which teaches at Col. 2., line 28 and as noted by the Examiner that "[k]onjac . . . is a soluble dietary fiber," clearly the combined references teach shortening substitutes that comprise soluble dietary fiber and not insoluble dietary fiber.

Further, fiber is a chemically complex and chemically diverse substance that is available from a variety of natural plant sources such as wood pulp, tubers from specific plants such as elephant yam, and agricultural by-products such as seed brans, hulls, and so forth. Raw fiber is

typically a solid that can be processed to produce a wide variety of products. One skilled in the art would know fiber products depend on the fiber source and the processing. While Young et al teach fiber produced by grinding and washing elephant yam plant tubers, the dietary fiber gel disclosed in the Applicant's application comes from the alkaline treatment of agricultural by-products.

For example, Young et al at Col. 4, lines 32-41, teaches konjac, a soluble fiber, "is naturally derived material . . . obtained from the tuber of the plant *Amorphophallus konjac* (elephant yam). The . . . tubers are ground . . . [and] recovered as konjac powder or flour . . . [that] has typically been washed, e.g., with water and/or alcohol." Clearly, Young et al teach shortening substitutes comprising fiber derived from the grinding and washing elephant yam tubers, and not insoluble dietary fiber derived from the alkaline treatment of agricultural by-products.

#### The References Lack Any Suggestion to Combine

There is nothing disclosed in Young et al in view of Stone that teaches the modification of the references suggested by the Examiner. Obviousness requires that the suggestion to make the claimed invention must found in the prior art. *In re Vaeck*, 947 F.2d 488, 493 (Fed. Cir. 1991). Such a suggestion is lacking in the cited reference. Even if the references fully taught the Applicant's invention, the Applicant traverses the rejection because nothing in Young et al in view of Stone affirmatively suggests making the cited combination.

Young et al teach teaches bakery food products, arguably including breads and pancakes, that comprise shortening substitutes comprising an aqueous phase and a lipid phase, wherein the aqueous phase is a gelatin formed from water and a soluble fiber, konjac. The Applicant's invention on the other hand teaches a shortening substitute comprising dietary fiber gel, water, and lipid. The dietary fiber gel includes insoluble dietary fiber that is dispersed in water, but does not dissolve in water to form an aqueous phase. Nothing in Young et al and Stone teaches or suggests shortening substitutes comprising insoluble fiber that forms dispersions.

For example at Col. 3, line 65 to Col. 4, line 3, Young et al teach that "shortening substitutive . . . have and aqueous containing konjac . . . , and a lipid phase." At Col. 4, lines 25-26, Young et al specifically point out that "the presence of konjac as a gelling agent in the aqueous phase of the emulsion." When discussing water-in-oil emulsions Young et al at Col. 9,

lines 23-27, points out “the aqueous phase is dispersed throughout the continuous aqueous phase, preferably as small gelled droplets . . . i.e. the konjac-containing aqueous phase.” Further, Stone at Col. 2, lines 27-31, points out that “[k]onjac flour is a soluble dietary fiber that . . . is typically used as a . . . gelling agent.” Clearly, Young et al and Stone teach a water soluble fiber that dissolved in to form gelatin type aqueous phase, and do not teach or suggest the dispersion of an insoluble dietary fiber to form a gel.

#### Combining the References Lacks a Reasonable Expectation of Success

There is nothing disclosed in Young et al in view of Stone that teaches a reasonable expectation of success in combining the references as suggested by the Examiner. Obviousness exists when the references provide a reasonable expectation of success for the proposed combination. *In re Merck & Co., Inc.*, 800 F.2d 1091, 1097-98 (Fed. Cir. 1986). Whether the combination is obvious or unobvious requires consideration of all the evidence and resultant findings. *In re Rinehart*, 531 F.2d 1048, 1052 (CCPA 1976). Such an expectation of success is lacking in the cited reference. Even if the references fully taught the Applicants invention, the Applicant traverses the rejection because nothing in Young et al in view of Stone leads to an expectation of success for the identified combination.

Young et al and Stone teaches a very specific soluble fiber compound derived from the grinding and washing of the tuber from a specific plant, *Amorphophallus konjac*, while the dietary fiber disclosed in the Applicant’s application comes from the alkaline treatment of agricultural by-products. Fiber, which is naturally produced by plants, is a chemically complex and chemically diverse substance that is available from a variety of sources such as wood pulp, plant tubers, and agricultural by-products such as seed brans, hulls, and so forth. Raw fiber is typically a solid that can be processed to produce a wide variety of products. One skilled in the art would know that fiber products, such as dietary fiber gels, depend on the fiber source and the processing.

The Applicant’s invention claims breads and pancakes comprising an emulsified liquid shortening, a shortening substitute, comprising dietary fiber gel derived from agricultural by-products grains such as seed brans, hulls, and so forth. The specification, as amended, discloses that the dietary fiber gel in the Applicant’s invention comprises insoluble dietary fiber derived from the alkaline treatment of agricultural by-products. Nothing in the cited references teach any

expectation that an insoluble fiber derived from the alkaline processing of agricultural by-products can be used in a shortening substitute formulation based on the very specific soluble fiber derived from the tuber of a specific plant known as *Amorphophallus konjac*.

For example, Young et al at Col. 4, lines 32-41, teaches konjac, a soluble fiber, "is naturally derived material . . . obtained from the tuber of the plant *Amorphophallus konjac* (elephant yam). The . . . tubers are ground . . . [and] recovered as konjac powder or flour . . . [that] has typically been washed, e.g., with water and/or alcohol." Clearly, Young et al does not teach any expectation that dietary fiber gel derived from the alkaline treatment of agricultural by-products that substantially disrupts cellular structure can be successfully used in a formulation of a shortening substitute that comprises a gelled aqueous phase having a gelling agent that is a soluble fiber derived for the tuber of a very specific plant, *Amorphophallus konjac*. Similarly, Stone does not teach any expectation that soluble fiber derived for the tuber of a very specific plant, *Amorphophallus konjac* can successfully be used in place of dietary fiber gel derived from the alkaline treatment of agricultural by-products that substantially disrupts cellular structure.

Applicant has amended the specification to clarify the foregoing distinctions. Although the specification has been amended so as to more reasonably convey the invention, and more specifically dietary fiber gel, to one skilled in the art, the amendments to the specification are expressly, implicitly, or inherently supported by the Inglett patent, a part of the original as-filed application. In view of the amendment to the specification, and above arguments, Applicant requests that the rejection of Claims 1-8 as being obvious under 35 U.S.C. § 103 (a) be withdrawn.

The shortening substitutes as in the cited references, Young et al in view of Stone, are functionally different from the Applicant's invention. In the cited reference, shortening substitution is through the use of a gelled aqueous phase or gelatin that is formed through the use of a soluble fiber gelling agent, konjac. In the Applicant's invention, there is no aqueous phase gelatin because dietary fiber gel is a dispersion of insoluble dietary fiber. Applicant's use of an insoluble fiber derived shortening substitute is not taught in the mentioned references.

Further, the cited shortening substitutes of Young et al in view of Stone comprise fiber compounds that are different from the Applicant's invention, such that the Applicant's shortening substitute is a compound that differs from the cited shortening substitutes. In Young

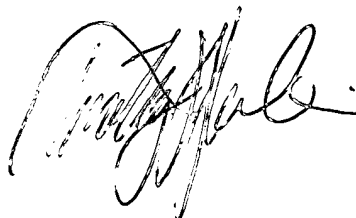
et al in view of Stone, the shortening substitute does not comprise insoluble dietary fiber.

However, the Applicant's shortening substitute comprises an insoluble dietary fiber such that the Applicant's shortening substitute is a different compound than taught in the cited reference.

Because the Applicant's shortening substitute is a different compound than known shortenings or shortening substitutes, the amount of shortening substitute that replaces shortening in the bread and pancake formulations, and the resulting solids content of the breads and pancakes, can be different depending on the desired taste, flavor, and texture such that the use of any known bread and pancake formulation would be unobvious.

Applicant believes that the amended patent application is now in condition for allowance. Accordingly, the Applicant respectfully requests that a Notice of Allowance be issued in this case. The Examiner is invited to contact the undersigned by telephone or facsimile if the Examiner believes this would advance the prosecution of the matter.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Timothy J. Fullin', with a stylized, cursive script.

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